SounPacific
Environmental Services
(707) 269-0884

June 23, 2006

Robert Stone, CHMM, Hazardous Materials Specialist
Humboldt County Department of Health
Division of Environmental Health
100 H Street, Suite 100
Eureka, California 95501

RE: **SSI Workplan Addendum No. 1**
Glendale 76, 1497 Glendale Road, Arcata, California 95521
LOP# **12170**

Dear Mr. Stone:

Previous investigations at the Big Oil & Tire Company, Glendale 76 facility at 1497 Glendale Road, in Arcata, California have determined that groundwater contamination that originated from the facility's underground storage tank (UST) system has migrated to the south, and is possibly offsite and beneath Glendale Road. The work conducted to date has delineated and removed the majority of the soil contamination; however, the full extent of the petroleum hydrocarbons impacted groundwater with has not been defined. Grab groundwater samples from borings has defined the lateral extent to the east of the former UST system. Groundwater contamination in monitoring well MW-1 and grab groundwater sampling from boring B-12, has not fully confirmed the western limits of the contamination, although it is expected, based on the contaminant concentrations and historical groundwater flow direction (towards the south), the contamination has not migrated significantly more to the west than currently identified. To the south, the monitoring wells MW-2 and MW-3 have reported non-detect levels of TPHg during recent monitoring events; however TPHg had consistently been reported in both wells in the

past, and MTBE has consistently been reported in both wells. Additionally, borings B-10, B-11, and B-12, that are located directly south of the former USTs, reported TPHg levels of 150,000 ppb, 20,700, and 978 ppb, and MTBE at 198,000 ppb, 29,000 ppb, and 1,470 ppb, respectively. Additionally, there has been no evaluation of any vertical migration of contamination at the site, and no monitoring of the upgradient background groundwater quality.

In May 2005, a Work Plan was prepared that proposed the drilling, sampling, and installation of seven (7) groundwater monitoring wells. Of the wells, five (5) onsite wells and one offsite wells were proposed to evaluate the lateral extend of the groundwater contamination. The seventh well was located onsite to evaluate the vertical distribution of the contamination. However, following discussions with HCDEH staff on June 1, 2006, and in an effect to provide a more economic approach, and obtain additional data, it was decided to modify the original proposed scope of work.

Revised Scope of Work

The scope of the originally proposed investigation consisted of the drilling, sampling, and installing six (6) shallow groundwater monitoring wells to assist with the delineation of the lateral and one (1) deeper well to assess the vertical extent of any groundwater contamination. The originally proposed well locations are shown in Figure 1.

Based on the conversation with HCDEH personnel, it is proposed to modify the scope of work with the initial drilling of eight (8) offsite and one (1) onsite borings for groundwater samples, and changing the number and locations of some of the proposed wells. The revised scope of work is as follows, with the revised sampling locations shown in Figures 2 and 3.

- Borings PB-A and PB-B will be drilled, using direct-push or hollow-stem auger technology, to the west of existing well MW-1 and former boring B-12, which have both reported the presence of TPHg and MTBE. The objective of these borings will be to

collect grab groundwater samples to determine the western extent of the groundwater contamination. The borings will be drilled to depths of approximately 15 feet below ground surface (bgs); however, the actual depth will be determined in the field, but will extend approximately three (3) feet below the water table. Temporary wells will be installed in the borings to allow for the collection of a grab groundwater sample. Following the collection of the groundwater samples, the temporary well casing will be removed, and the boring will be abandoned, by filling it with a bentonite grout. Soil samples will be collected at four (4) or five (5) foot intervals (depending on drilling method) to evaluate subsurface geology; however, no soil samples will be retained for laboratory analysis, unless field screening indicates the presence of soil contamination. All collected groundwater samples will be subject to field screening to assist in the determination of the need for any additional borings and the ultimate placement of any groundwater monitoring wells. Field screening of soil samples was outlined in the original Work Plan. Field screening of groundwater samples will be conducted by half filling an eight-ounce pre-cleaned screw top glass container, sealing the containing with a foil cover, agitating the contents, after which the top is removed, and the probe of a portable PID gas analyzer is inserted through the foil to obtain a reading of any volatile hydrocarbons. If field screening reports significant hydrocarbons in the offsite borings, a step out boring(s) will be considered. The grab groundwater sample from the boring will be analyzed for TPHg; benzene, toluene, ethylbenzene, xylenes (BTEX); and fuel oxygenates by a certified laboratory. Boring PB-B will also assist in the downgradient evaluation of the groundwater contamination. The proposed new boring locations are shown in Figure 2.

- Analytical results of grab groundwater samples from borings to the east of the former UST system have generally defined the eastern extent of the groundwater contamination. However, groundwater monitoring of well MW-3 has consistently reported the presence of petroleum hydrocarbons. Therefore, to delineate the lateral extent in the area to the southeast of the former UST system, one boring (PB-E) will be drilled from which a groundwater sample will be collected and analyzed in the same manner as proposed for

PB-A and PB-B. Boring PB-E will also assist in the downgradient evaluation of the groundwater contamination. The proposed new boring locations are shown in Figure 2.

- Although monitoring well MW-2, which is downgradient of the former dispensers, has only reported low, inconsistent concentrations of TPHg and consistent, but low levels of MTBE, significant elevated concentrations of petroleum hydrocarbons were reported in the grab groundwater samples from the borings located to the east of the well. These included B-11 (TPHg at 20,700 ppb and MTBE at 29,000 ppb) and B-12 (TPHg at 978 ppb and MTBE at 1,470 ppb). Boring B-11 is also the furthest downgradient sampling location to date. In an effort to assess the lateral distribution of the contamination, it is proposed to drill and sample four (4) downgradient borings, two (2) borings (PB-C and PB-D) will be located onsite, with the other two (2) borings (PB-F and PB-G) located offsite, on the south side of Glendale Road. All four (4) borings will be drilled and sampled in the same manner of the previously discussed borings.

- To date no evaluation of the horizontal distribution of any hydrocarbon contamination below the water table has been conducted. In the original Work Plan it was proposed to install one (1) deep well monitoring well to a depth of approximately 45 feet bgs which would be screened between 35 feet and 45 feet bgs. We are rescinding our proposal for the installation of this well and are instead proposing two (2) Geoprobe borings (PB-H/deep and PB-I/deep) with groundwater samples collected at depths of 15 feet, 25 feet, 35 feet, and 45 feet bgs. No soil samples will be collected from either boring. Boring PB-I/deep will be drilled in the vicinity of former boring B-10, which reported significantly elevated levels of TPHg (150,000 ppb), BTEX, and MTBE (198,000 ppb). Boring PB-I/deep will be drilled approximately 30 feet to the south, in the downgradient direction, of PB-H/deep.

- Proposed monitoring well PMW-A, will be drilled, sampled, and installed as outlined in the original Work Plan, with the objective of determining upgradient, background

groundwater quality (See Figure 2).

- Prior to being destroyed, monitoring well MW-4 was at the one of the likely sources of the contamination. This location was upgradient and directly adjacent to the former USTs. Groundwater monitoring of MW-4, had consistently reported petroleum hydrocarbons. It is proposed to replace the former MW-4 with a new well (PMW-B) that will be located on the downgradient, south side of the former UST location (see Figure 2). The well will be installed in the same manner as the shallow wells in the original Work Plan. This well will also meet the requirement of a well with 10 feet of the source.

- Based on the results of the grab groundwater sampling, a new downgradient monitoring well (PMW-C) will be installed to assess and monitor the migration of the groundwater contamination. The location of the well will be determined following the evaluation of the grab groundwater sampling analytical, particularly that from proposed borings PB-C, PB-D, PB-F, and PB-G. The well will be installed in the same manner as the shallow wells presented in the original Work Plan.

It is currently proposed to conduct this work in two (2) phases, with the monitoring wells being installed following the receipt of the analytical results of the groundwater samples from the borings, which would be conducted on a normal turnaround basis. However, if it is determined that it would be more economical to conduct accelerated turnaround on the sample analyses rather than the remobilization of the drilling contractor, the work will be conducted during a single field event. This will be determined, following the approval of this revised scope of work by HCEHD.

All other aspects of the proposed scope of work, including the proposed schedule will be implemented in accordance with the previously approved Work Plan and this Addendum. The process of implementing the work will commence, upon receipt of your approval of this addendum, and SounPacific will contact your office a minimum of five (5) days prior to the

implementation of any field work. Finally, during your review of this addendum, if you have any questions or concerns, please do not hesitate to contact me.

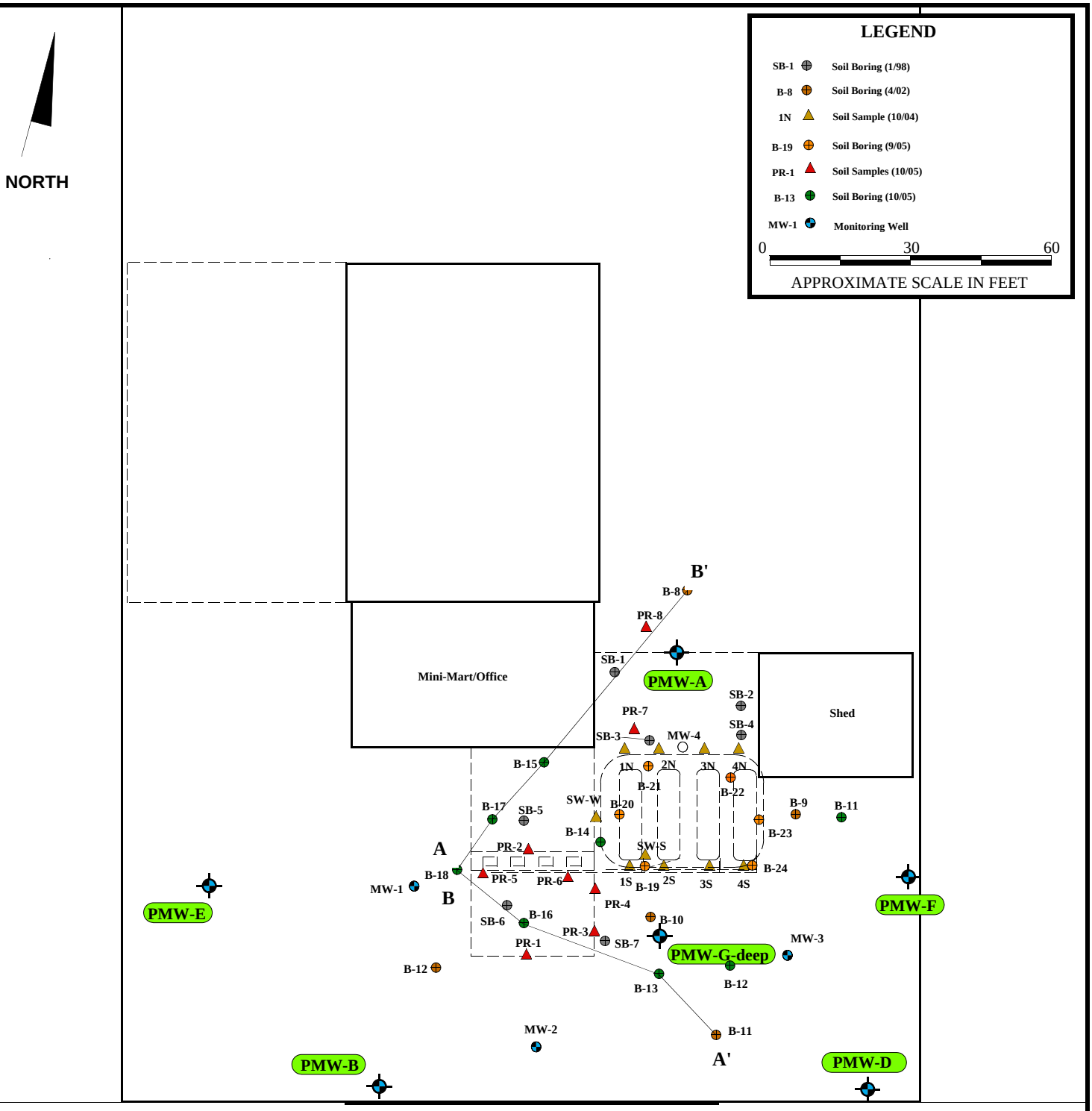
Sincerely

Michael P. Sellens

Michael Sellens, RG # 4714, REA # 07890
Principal Geologist

REGISTERED GEOLOGIST
Michael P. Sellens
No. 4714
STATE OF CALIFORNIA

cc. Mr. Rich Pomrehn, Big Oil & Tire Company, Inc.

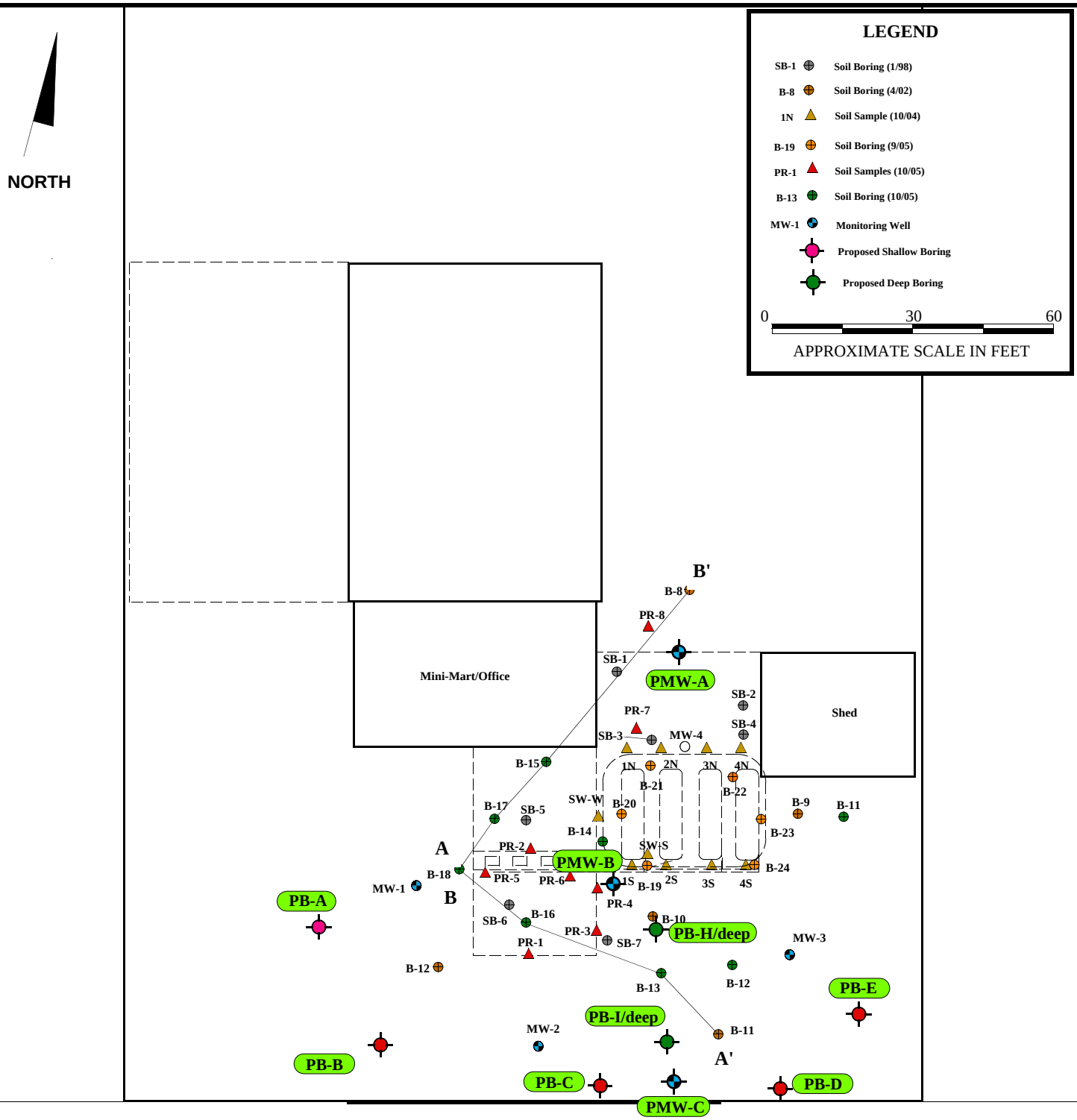


ORIGINALLY PROPOSED INVESTIGATION

Figure 1

Environmental Services

Glendale 76 1497 Glendale Road Arcata, California 95521	Project No.	Report Date
	SP-150	6/23/06



PROPOSED REVISED INVESTIGATION

Figure 2

Environmental Services

Glendale 76 1497 Glendale Road Arcata, California 95521	Project No.	Report Date
	SP-150	6/23/06